IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of **Carlsson**	
Serial No.: **10/085,399** **Filed: February 28, 2002**	PATENT PENDING
For: **Enhanced Mobile Station Positioning In A Wireless Communication Network**	Examiner: Ahmed, Salman
Docket No: **4015-2022**	Group Art Unit: 2616
	Confirmation No.: 6746

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

☐ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (571) 273-8300.

July 26, 2006 — Date

Kathleen Koppen

This correspondence is being:

☒ electronically submitted via EFS-Web

AFTER FINAL RESPONSE

Sir:

Applicant submits the following after-final response in reply to the Advisory Action mailed July 11, 2006. Allowance of all pending claims is respectfully requested in light of the amendments and remarks below. No fees or dues should be required for entry of this response. However, if any fees are required for entry of this response, the Commissioner is hereby authorized to charge them to Deposit Account 18-1167.

AMENDMENTS TO THE CLAIMS

What is claimed is:

1. (Currently Amended) A method of facilitating mobile station operations in a wireless communication network, the method comprising:

receiving a request at the mobile station to perform a designated task;

determining whether a current operating mode of the mobile station offers sufficient idle time to perform the designated task within a desired time by determining whether available background processing time is sufficient to complete the designated task before expiration of the desired time, the available background processing time being a cumulative time comprising intervals between ongoing transmit and receive operations in combination with currently designated communication idle times; and

requesting additional idle time from the wireless communication network if sufficient idle time is not available at the mobile station .

2. (Original) The method of claim 1, wherein the designated task comprises a positioning operation associated with locating the mobile station, and wherein the request identifies the positioning operation and identifies the desired time for performing the positioning operation.

3. (Original) The method of claim 1, further comprising determining the desired time from information included in the request received at the mobile station.

4. (Cancelled).

5. (Currently Amended) The method of claim ~~3~~ 1, further comprising performing the designated task using the available background processing time where the available background processing time is sufficient to complete the designated task within the desired time.

6. (Currently Amended) The method of claim ~~3~~ 1, wherein determining whether available background processing time is sufficient for completing the designated task within the desired time comprises at least in part evaluating a number of currently allocated idle time per TDMA multiframe.

7. (Cancelled).

8. (Original) The method of claim 1, further comprising receiving a response message from the wireless communication network, wherein the response message indicates whether the request from the mobile station for additional idle time is granted.

9. (Original) The method of claim 8, wherein, if additional idle time is granted, the response message further indicates one or more future idle times, and further comprising performing at least a portion of the designated task during the one or more future idle times.

10. (Original) The method of claim 9, wherein the one or more future idle times are identified time blocks within repeating time-division-multiple-access (TDMA) frames, and further comprising performing the designated task during the identified time blocks.

11. (Original) The method of claim 1, further comprising performing the designated task during available idle times, and without requesting additional idle time, if the current operating mode offers sufficient idle time to perform the designated task within the desired time.

12. (Original) The method of claim 1, wherein the mobile station comprises a GPRS terminal and the wireless communication network comprises a GPRS network, and further wherein receiving a request at the mobile station to perform a designated task comprises receiving a location services request message defining a desired positioning operation to be performed by the mobile station.

13. (Original) The method of claim 1, wherein the mobile station and the wireless communication network communicate using repeating TDMA frames, and wherein requesting additional idle time from the wireless communication network if sufficient idle time is not available at the mobile station comprises requesting additional units of idle time in forthcoming ones of the repeating TDMA frames.

14. (Currently Amended) A method of facilitating mobile station operations in a wireless communication network, the method comprising:

sending a command to a ~~mobile station~~ GPRS terminal to perform a designated task;

~~receiving an idle time request at the network from the mobile station for additional idle time to perform the designated task;~~

receiving, at a GPRS network, an idle time request from the GPRS terminal for one or more units of idle time within one or more forthcoming TDMA frames used for communication between the GPRS terminal and the GPRS network, wherein the TDMA frames comprise repeating multiframes, each multiframe comprising a number of communication frames and a default number of idle frames;

determining whether to grant the idle time request; and

sending a response to the ~~mobile station~~ GPRS terminal identifying ~~forthcoming additional idle time~~ one or more selected radio blocks in one or more forthcoming 52-multiframes on a packet data channel (PDCH) to be used as additional idle time by the ~~mobile station~~ GPRS terminal for performing the designated task if the idle time request is granted.

15. (Original) The method of claim 14, further comprising sending a response to the mobile station indicating a request refusal if the idle time request is not granted.

16-18. (Cancelled).

19. (Currently Amended) The method of claim 14, wherein determining whether to grant the idle time request comprises determining whether an acceptable distribution of additional idle time over one or more forthcoming TDMA frames exists in consideration of ongoing user scheduling involving a plurality of mobile stations, including the ~~mobile station~~ GPRS terminal from which the idle time request was received.

20. (Currently Amended) The method of claim 19, wherein determining whether an acceptable distribution of additional idle time over one more forthcoming TDMA frames exists comprises determining whether ongoing communication scheduling will permit the ~~network~~ GPRS network to allocate the requested amount of additional idle time within a desired time limit.

21. (Currently Amended) The method of claim 20, wherein the ~~network~~ GPRS network receives an indication of the desired time limit as part of the idle time request message.

22. (Currently Amended) The method of claim 21, wherein the ~~network~~ GPRS network knows a priori the desired time limit.

23. (Cancelled).

24. (Currently Amended) The method of claim ~~23~~ 14, wherein sending a command to a ~~mobile station~~ GPRS terminal to perform a designated task comprises:

determining that the ~~mobile station~~ GPRS terminal is required to perform the designated task;

identifying a desired time limit for performance of the task; and

forming the command such that the command indicates the designated task and the desired time limit.

25. (Currently Amended) The method of claim 14, further comprising:

receiving a location request from a third party at the ~~network~~ GPRS network for the ~~mobile station~~ GPRS terminal;

determining a required location accuracy and a required response time for the location request;

transmitting a location command to the ~~mobile station~~ GPRS terminal from the ~~network~~ GPRS network as the command to perform the designated task; and

receiving the idle time request at the ~~network~~ GPRS network from the ~~mobile station~~ GPRS terminal responsive to transmitting the location command.

26-37. (Cancelled).

REMARKS

In the Advisory Action, the Examiner maintained the finality of the §102 and §103 rejections to the independent claims 1, 14, 26, and 30. The Examiner indicated, however, that dependent claims 7 and 18 contained patentable subject matter over the cited art. As such, independent claim 1 has been amended to incorporate the subject matter of its dependent claim 7 and all intervening claims.[1] Claim 14 has also been amended to incorporate the subject matter of its dependent claim 18 and all intervening claims. Claims 19-22, and 24-25 have been amended to ensure that their dependencies and language comport with that of their respective independent claims. In addition, claims 5-6 and 24 have been amended without adding new matter to correct their dependencies. Claims 26-37 have been cancelled without prejudice.

In light of the amendments, Applicant respectfully requests the allowance of all pending claims.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.

Dated: July 26, 2006

Stephen A. Herrera
Registration No.: 47,642

P.O. Box 5
Raleigh, NC 27602
Telephone: (919) 854-1844
Facsimile: (919) 854-2084

[1] Claims 5-7 originally depended from claim 3 (See Applicant's response dated April 13, 2006). However, this was erroneous, and claims 5-7 should have depended from claim 4. As such, the amendment to claim 1 incorporates the subject matter of claims 4 and 7 rather than 3 and 7.